***COMPLETE IN NOTEBOOK! COPY ALL FIGURES!***

CW56/HW56: Similarity Word Problems

**Geometry**

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| 1. In order to estimate the height *h* of a flag pole, a 5 foot tall male student stands so that the tip of his shadow coincides with the tip of the flag pole’s shadow. This scenario results in two similar triangles as shown in the diagram. 2. Prove that the triangles are similar. 3. Explain why you must use similar triangles, and not Pythagorean theorem, to solve this problem. 4. What is the height *h* (in feet) of the flag pole? | |
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| 1. Macintosh HD:Users:rmitrovich:Desktop:Screen Shot 2016-01-10 at 10.29.51 PM.png | 1. ../../../../Desktop/Screen%20Shot%202017-01-29%20at%204.31.13%20PM.pn |
| 1. ../../../../Desktop/Screen%20Shot%202017-01-29%20at%204.30.16%20PM.pn | 1. ../../../../Desktop/Screen%20Shot%202017-01-29%20at%207.51.19%20PM.pn |
| 1. In triangle ABC, the measure of ∠B is 90°, BC = 16, and AC = 20. Triangle DEF is similar to triangle ABC, where verticies D,E, and F correspond to verticices A,B, and C respectively, and each side of triangle DEF is 1/3 the length of the corresponding side of triangle ABC. Draw and label triangle ABC and DEF and label all sides. | 1. To determine the height of the flagpole at school, Jerome, who is 6 feet tall, notices tha the casts a shawdow that is 4 feet long. He then measures that the shadow cast by the flagpole is 30 feet long. How tall is the flagpole? |
| 1. To meausre the height of a building downtown, Linda stands at its base and walks 73 meters along the shadow the building casts until her shadow ends at the same spot as the building’s shadow. If linda stands 1.68 meters tall and casts of a shadow of 2 meters, what is the height of the building? | 1. A slide projector uses a square slide that is 4 cm tall and is positioned 10 cm from the light sources. If the height of the image project on a wall is 150 cm, what is the distance from the slide to the wall? |